

AMERICAN VETERINARY REVIEW,

JUNE, 1888.

EDITORIAL.

VETERINARY PROFESSION.—A paper read by Dr. W. Y. Williams before the Ohio State Veterinary Medical Association—importance of the paper—it treats of the uniformity in veterinary education by the various schools—the same subject under the consideration of the U. S. V. M. Association—Dr. Hoskins' labor and the credit he deserves—his report—all the schools say they approve of it—importance of that all—the new announcements of the various colleges in North America—the anxiety of the would-be student. **PLEURO-PNEUMONIA IN NEW YORK.**—A decision adverse to the work of the Bureau of Animal Industry—tagging objected to by one owner of cattle is sustained by the court—danger that might have arisen from that judicial action—but it is ended by prompt action of the Bureau, which obtains new power and assistance from the State—the proclamation of Governor Hill—now the work will go on more smoothly than ever. **THE JOURNAL OF COMPARATIVE PATHOLOGY AND THERAPEUTICS.**—The fourth recent addition to the ranks of veterinary journals—talented editorial management—a promising editorial number—our best wishes.

THE VETERINARY PROFESSION.—We begin in the present number of the REVIEW the publication of a paper which was read at one of the meetings of the Ohio State Veterinary Medical Association, by Dr. W. Y. Williams, a gentleman who needs no introduction to his confreres in the veterinarian ranks. A perusal of this essay will well repay our readers. It has been for some time in our hands, and our apology for deferring its appearance till the present time must be found in the mass of material pressing for insertion in our columns, and the insufficiency of the space at our command to accommodate at once the favors of all our contributors. The paper and the subject which it discusses will, however, lose none of their interest by the delay, the questions involved being of permanent importance, and therefore equally pressing at one

time or another, in respect to the adjustment of the points requiring settlement at the hands of veterinarians and others. The treatise involves the consideration of the theme of *uniformity in the matter of veterinary education, with a longer term of instruction than that which is now required by a portion of our American veterinary training institutions.* The topics reviewed by the author in his paper comprise a comparison of the methods of teaching in the various schools, with the results respectively obtained, and the percentage of graduates in each, and his aim is to lead his hearers and the reader to an affirmative conclusion upon the proposition that the best interests of the profession will be promoted by the adoption of a three years' course of instruction.

The Doctor means by this, such a three years' course as some of our colleges have already contemplated and claim to have established, or such as the United States Veterinary Medical Association has for several years been laboring for, with an assiduity and earnestness of which only the committee of that Association and Dr. Hoskins are cognizant, to induce the various schools of the country to adopt. And if the endeavor shall ever be crowned with the success which it merits, to none will the credit of that success be more justly attributable than to the indefatigable and intelligent energy of Dr. Hoskins.

At the last meeting of the United States Veterinary Medical Association, Dr. H., who holds the position of chairman of the committee referred to, was fortunately favored with an opportunity of presenting his report, in which he stated, as we understand it, that he had received assurances from all the schools, that a three years' course would be acceptable to *all*—and there is great significance in that little monosyllable *all*, if it is to be interpreted to indicate the fact that each one of the veterinary schools of North America will hereafter insert in its customary annual announcement a proviso containing the obligatory requirement that "*admittance to graduation shall be conditioned upon the presentation of evidence that the candidate has performed three full years of curriculum college attendance.*"

This point, as we understand it, is the object of Dr. William's paper to establish, and it should be read with all the attention and

interest which should be accorded to any well considered and able presentation of a question of acknowledged importance.

The announcements of the schools for the coming terms will doubtless be anxiously scanned by gentlemen contemplating enlistment in the ranks of intending veterinary students, and it is to be hoped that none of them will be tempted by the consideration of the additional year to be devoted to the labor of preparatory study, to object to the adoption of a policy which must insure, in its practical workings, a result which can but add to their self reliance and comfort when they shall enter upon their subsequent career as qualified practitioners. The end of the matter will be watched for with much curiosity by our inchoate D.V.S's, and others as well.

Of the thousand students who registered last winter in North American veterinary colleges, more than one-half expressed their preference for the teaching of the Canadian schools by their attendance at those institutions, and it could be the boast of one of these that the largest matriculating class in the world has issued from its halls. Numerous explanations of this fact might be pertinently alleged, which we do not feel it to be our province to indicate, and yet we cannot help thinking that much weight attaches to some of the reasons which are found influential in determining the preference of the embryo students who thus become sojourners for a time among the emigrant-boodlers from the United States who partly populate our neighbor land.

PLEURO-PNEUMONIA IN NEW YORK.—A judicial decision was recently rendered by one of our State courts in Westchester county which threatened for a time to interfere seriously with the work of the Bureau of Animal Industry, in enforcing the law for the extirpation of contagious pleuro-pneumonia in the Empire State.

Amongst the methods instituted by the Bureau are a census of animals and a system of marking them, and these measures are as thoroughly carried into effect as possible, and as the importance of the work demands. The process of marking consists in attaching a small brass tag to the ear of each animal. On the occasion referred to, the Inspectors of the Bureau, upon visiting a farm in the course of the fulfilment of their official duties, were refused

admittance to the premises and compelled to retreat, and upon returning accompanied by a Sheriff, were a second time repulsed. The indictment of the rebellious farmer followed, involving the usual legal combat, and matters proceeded far enough to reach, at length, a decision by the trial Judge, who announced his approval of the resistance offered by the owner of the cattle. Such a conclusion, of course, seriously involved the whole matter, and greatly interfered with the process of stamping out contagious pleuro-pneumonia in the State of New York.

We were apprehensive, while this case continued in abeyance, that it might prove to be a source of serious annoyance to those who are interested in the cause of preventive sanitation, and there seemed to be reason to fear that evil consequences might follow, of which one could not easily define the limit or anticipate the form and nature, but which could not possibly be other than exceedingly disastrous and deplorable. The danger consisted not alone in the fact that a deliberate "defiance of the Inspectors," had been sanctioned by an inferior tribunal of "justice," for such an act was appealable and reversible, and a higher authority could easily overrule the error, but if that remedy should fail—and this was possible—who could guess the unknown trouble yet beyond?

But any danger that might have existed of this nature is now happily obviated by the interposition of the executive authority, in the form of a proclamation by the Governor, by which certain specified counties are placed in quarantine, and the Bureau is endowed with all the power they need to authorize them to carry into effect the measures necessary to the accomplishment of the purpose of their appointment. An active unity between the Federal and State Legislatures furnishes the only possible guarantee that the stamping out of pleuro-pneumonia can be effected with satisfaction and certainty. The following is the text of the Governor's proclamation :

Whereas, By chapter 134 of the Laws of 1878 and the acts amendatory thereof it is made the duty of the Governor to suppress any infectious or contagious diseases affecting domestic animals and to prevent the same from spreading; and

Whereas, It has been certified to me by James Law of Ithaca, acting as my agent, that contagious pleuro-pneumonia or lung plague of the cattle exists in this State in the counties of New York, Kings, Queens, Richmond, and such part of the county of Westchester as lies southerly of the northerly boundaries

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of the towns of Greenburg, White Plains, and Harrison, in said county of Westchester; and

Whereas, By a law of the United States of May 29, 1884, entitled, "An act for the establishment of a Bureau of Animal Industry to prevent the exportation of diseased cattle and to provide means for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals," provision is made for co-operation of the United States with individual States for carrying this into effect; and,

Whereas, By chapter 155 of the Laws of 1887 the Governor is authorized to co-operate with the Commissioner of Agriculture of the United States for this purpose;

Now, therefore, I, David B. Hill, Governor, having accepted in April, 1887, on behalf of the State of New York, the rules and regulations prepared by the United States Commissioner of Agriculture, in compliance with the above mentioned acts, do hereby proclaim the existence of contagious pleuro-pneumonia or lung plague of neat cattle in the counties of New York, Kings, Queens, Richmond, and such part of the county of Westchester as lies southerly of the northern boundaries of the towns of Greenburg, White Plains, and Harrison, and do issue the following orders to be in force in the aforesaid geographical districts from the 14th day of May, 1888:

First.—All owners and persons responsible for neat cattle in the said geographical districts are ordered to retain all such neat cattle on the premises where they may be at the time of the issue of this proclamation, and not to allow any such cattle to move from one place or premises to another, nor to be upon any highway or unfenced ground unless they are in charge of a person with a special permit granted by an inspector or assistant inspector of the Bureau of Animal Industry of the United States, who shall also have been duly designated and appointed by my agent under this proclamation to act in this State.

Second.—All railroad companies and common carriers doing business within the quarantined counties and all sea and river craft doing business in the port of New York are ordered not to move any neat cattle into or out of any quarantined geographical district nor from any one part of such district to another unless they are accompanied by a special permit granted by such a said inspector or assistant inspector. Cattle in through transit by rail or boat from one quarantined district to another, and that are not to be unloaded within the quarantined district, will not require a permit. Cattle from unquarantined districts, as shown by the bills of lading, and arriving by rail or boat at the Union Stock Yards or the piers on the North or East River in New York City may come without a permit, but a permit will be required before they can be taken from such stock yards or piers.

Third.—Such said inspectors and assistant inspectors shall tag, number and register all cattle within the quarantined district, and the owners or custodians will be held responsible for all such cattle, dead or alive, as are registered on their books, and shall promptly report to the Chief Inspector for New York of the Bureau of Animal Industry, at 1,512 Broadway, New York City, all cases of sickness and all births and deaths among such cattle.

Fourth.—Such said inspectors and assistant inspectors shall have the power to inspect all neat cattle within the quarantined district and to condemn such as

are affected with lung plague and such as have been exposed to the infection of said disease, and such condemned cattle shall be appraised and killed and the owners indemnified by the United States Department of Agriculture, as provided in chapter 165 of the Laws of 1887.

Fifth.—Butchers and other slaughterers of cattle, and all persons who receive and dispose of dead animals, are forbidden to receive cattle, alive or dead, from premises in the quarantined district, unless such are accompanied by a special permit from such a said inspector or assistant inspector, and such cattle must only be killed or skinned in the presence of such a said inspector or assistant inspector, who shall remove the tags and identify and examine the carcass.

Sixth.—Such said inspectors and assistant inspectors shall have free access to all places infected or suspected to be infected with lung plague, or any and all places where animals are quarantined by this order and proclamation, for the purpose of disinfecting the same.

Seventh.—Sheriffs, constables, and peace officers shall, when called upon, assist and protect the duly authorized employes of the Bureau of Animal Industry when engaged in the execution of their duties in suppressing the lung plague of cattle.

Eighth.—I hereby appoint James Law of Ithaca my agent to designate and appoint such inspectors and assistant inspectors of the Bureau of Animal Industry of the United States as he deems necessary to act in New York for the suppression of lung plague, and generally to carry out the provisions of the laws of this State enacted for such purpose.

Given at the capitol in the city of Albany this 14th day of May, in the year of our Lord one thousand eight hundred and eighty-eight.

[SEAL]

WILLIAM G. RICE, Private Secretary.

By the Governor,

DAVID B. HILL.

THE JOURNAL OF COMPARATIVE PATHOLOGY AND THERAPEUTICS.—In our April issue we referred to the recent addition of three new members—two Italian and one French—to the honorable fraternity of veterinary periodicals. To-day we take pleasure in welcoming still another, an English issue, *The Journal of Comparative Pathology and Therapeutics*, which is to be a quarterly, edited by Prof. J. McFadyean, M.B., B.Sc., of the Dicks Veterinary College.

We have reviewed the March number and if we can judge from its contents as to the quality of those that may follow it, we entertain no fear of its success. The first article, on the Pathology of Haemoglobinuriæ, by editor J. McFadyean, is deserving of the careful attention of all veterinarians and specially our American confrères, who see so much of that disease.

We welcome *The Journal of Comparative Medicine and Therapeutics* and wish it all success. W. R. Jenkins is the American publisher.—A. L.

PAPERS COMPETING FOR THE REVIEW PRIZE.**STUDIES OF A CATTLE DISEASE HITHERTO ILL UNDERSTOOD.**

Common Name—*Mad Itch*;
New Name given—*Enzootic Meningitis*.

BY A. WESTERNER, M.D., V.S.

There frequently occurs, (in the great West at least), a very destructive disease among cattle, which is known as "Mad Itch." In vain have tried to trace it in the German, French, English and American pathologies at my command. Nowhere have I been fortunate enough to find a parallel. True, I find in the descriptions of meningitis and of "grass staggers" (dry murrain), given by Professors Law, Williams, Gamgee, Röll and others, some symptoms occurring in the disease I am about to describe, but the similarity is far from being satisfactory. The phenomena of rabies are more in accord with it than those of any other affection that I know. I have seen over fifty fatal cases in different localities in a comparatively short time, and I have received communications proving its extensive distribution over the country every year. It is indeed, very frequent in the State I live in, and it is enzootic and almost always fatal. In the Western States the experienced stockmen are familiar with the word "mad-itch," and many have had some experience with some disease known by that name, which was given doubtless on account of the furore of the patient and the intense rubbing of the head. Some competent veterinarians seem to ascribe its cause to so-called "dry murrain" (impaction of the third stomach) with omastitis, etc.; others have (justly or wrongly) believed it akin to hydrophobia, and again others simply call it mad-itch, without any attempt to explain it.

During the last three years the malady has so frequently come to my notice, I have found it so deadly, and so rebel to all kinds of curative treatments, that I determined to investigate it at as early a period as possible. During the last five months came my first opportunities. They consisted in two outbreaks of the disease, both of which, however, were studied under considerable disadvantage.

The following gives the result of my labors so far. I hope to be able to present the profession and the people with some additional researches in the near future.

HISTORICAL.

In November, 1887, I was called to Huntsville, Randolph County, Mo., where cattle on one farm were dying in quick succession. I found that the proprietor, Mr. James Hammitt, Jr., an intelligent young farmer and banker, and his neighbors, had already diagnosed the disease. It was the well-known (?) mad-itch. Five head of cattle were dead, one was convalescent. No new cases since forty-eight hours or three days. The cattle had taken sick in a nice pasture where they had been several months. There were and had been no hogs with them, and there were no corn cobs or stubble fields to which they had access, (except, of course, the unshelled corn on cob). There was nothing, in other words, indicating that impaction of the stomach might have existed and caused mad staggers or dry murrain so called. In the West, many stock raisers ascribe the occurrence of mad-itch to corn cobs masticated by hogs and then spit out and eaten by cattle. The cattle all had access to a good pond of water at a short distance from the main field. In this field, however, was also a pond, but owing to the excessively dry weather, it had become dry some months previously and had remained so until November, and no cattle could get water in it. A few days before the disease started it rained considerably, and this pond was partly filled. Then the cattle began to drink in it, instead of going to the other already mentioned, which was a little further off. When I arrived on the ground it was a few days after this newly filled-up pond had frozen all over some inches in thickness. The cattle had not been able to drink from it for some days. No more cases of sickness had occurred after the frost.

After taking notes on one carcass and all other material points, I waited for further developments, but nothing of interest to me took place. Consequently, I had to postpone my investigations after this very unsatisfactory inspection. In the last days of January, 1888, another outbreak occurred at a place called Rollinghome in the same county. There, I had much better success, but not yet as desired.

Three cattle had died and three died later among a bunch of two and three year old steers which had been fed for some time on a feed and pasture lot. It had been frozen hard for some time. Previous to the occurrence of the disease it thawed out a few inches deep and became dotted with deep and broad hoof prints, (made in the soil before, frost of course), that were filled with surface water, and from which the cattle drank.

There was an old pretty-well-filled pond in the lot which had been covered with ice all winter, but from which Mr. Elliott Palmer, the proprietor, dipped water for his cattle some few days before any died from mad-itch. Some had had a gradual change of feed from hay to hay and corn; one of those that died had had corn and hay all winter. No change even in quantity. I think all cattle though had a change in the quality of hay some time before the malady made its appearance.

After the first deaths the cattle were removed to an adjoining field through which surface water of this pond circulated by means of a deep stream. This field also was dotted with holes filled with ground surface water. Two cattle took sick in this lot and died. Then all the rest of the cattle were removed to still another place, dryer and higher than either of the two former. No disease after that.

SYMPTOMS.

The first symptom that was noticed in several cases was a slight watery discharge from the eyes, and a rapidly increasing dumpishness. I am not positive that these symptoms are invariably present at the beginning. There is always some intense itchiness (in all appearance) at some part of the head, which is rubbed and scratched severely on stumps, trees, fences, etc. Usually one side of the head or only the lower maxillary presents this feature. Rubbing is frequently so constant and hard that it causes considerable irritation of the surface of the skin. Sometimes it even becomes raw and bloody, and the subcutaneous tissues become infiltrated with serum, and a prominent swelling occurs. Symptoms of nervous excitement make their appearance at an early date. They coincide with this rubbing. They are characterized at first by a wild glaring look, which soon acquires intensity and seems to be a mingling of fright and threats to scare

the looker-on. Signs of hallucinations become apparent. If a patient is standing in a lot by itself for instance, it may be seen to glare and stare apparently at some object, prick its ears, blow its nose loudly, start suddenly in a threatening manner towards the imaginary thing, and sometimes it bellows in a hoarse howling voice. This more or less sonorous bellowing occurs in the stable as in the field, as all other symptoms do. It is not uncommon to see, also, some of those patients run wildly over the field, irrespective of obstacles of any kind. If a dog, a chicken or any animal is placed within reach, the furious beast will madly rush for it in a most menacing, if not decidedly aggressive and dangerous manner. Man himself, has to keep at a safe distance. I, myself, had to get out of range in haste on one occasion. It occurred in a stable, three years ago, when I was not very familiar with the peculiarities of the malady. Indeed, I narrowly escaped a good pointed pair of horns by scrambling over a fence in a style that must have been not very graceful. It is never safe to endeavor to cultivate friendship with those maddened brutes. They do not seem particular enough about their objective point of hugging.

The breathing is increased and the pulse is likewise augmented, but I have been unable to get it satisfactorily on account of this great excitability. I may say the same thing regarding temperature.

During all those symptoms there is more or less slobbering at the mouth. It becomes more pronounced at the latter part of life. Finally in a paroxysm, the animal falls, or it lies down abruptly, apparently exhausted, or maybe somewhat paralyzed, and dies without much struggling.

The bowels and urinary organs do not appear to have been materially, if at all, interfered with in their functions. In bleeding, (at certain periods at least, especially towards the closing of the sufferings by death), the blood is dark, flows freely and spreads over the ground without forming a solid clot. It does not brighten at all or brightens in color very little by contact with the oxygen of the air.

PATHOLOGICAL ANATOMY.

Soon after death the body becomes very much distended by the accumulation of gas in the thorax, the abdomen, the bowels

and the subcutaneous and inter-muscular connective tissues. The blood is dark, fluid and follows the knife freely in its course through the tissues. Seldom it is found slightly or partly coagulated in anterior and posterior aortas and other large blood vessels. A soft, mushy and very dark brown clot is sometimes found in the heart. The lungs decompose early after death (as other visceral parenchymatous organs do, in fact), but they appear otherwise intact. The same may be said of the liver. The spleen in the majority of cases was found darkened and softened at one extremity, somewhat like in Texas fever. In cases examined somewhat after death, the kidneys were considerably friable. In those examined earlier, they appeared sound or nearly so. There was little or no urine found in the bladder and what was there appeared of a normal nature to the naked eye.

Beneath the surface irritated by rubbing there was an accumulation of serosity of variable extent in the conjunctive tissue. The skin at those places was more or less denuded and raw, and even sometimes bloody, as mentioned in another part of this paper.

The laryngeal and pharyngeal tissues were congested to a great degree in some, and less in others. This lesion was more marked in the animals in which rubbing had occurred within neighborhood of that region. I have even noticed these tissues with a slight violet color.

The meninges were *always* found congested. The blood vessels were plainly seen to be filled, and gorged in fact, in all parts almost of the envelopes of the brain, extending down to the cervical spinal cord some inches below the medulla oblongata. There I met with hemorrhagic infraractus. The brain substance itself (cerebrum and cerebellum), presented a congested appearance in some instances. I also met with some decidedly pronounced cases of softening of the brain. Occasionally there was an effusion of serosity in the arachnoid cavity, even in the ventricles.

I found always the alimentary canal intact in all its portions, with the exception of one single case, in which the ileo-coecal region was decomposing, and in which the walls of the third stomach

presented isolated and faint traces of congested capillaries. Doubtless there were secondary lesions. There was no impaction, and no congestion nor inflammation besides that. This is worthy of notice, since the few whom I have found endeavoring to account for the disease, bring impaction and omastitis into play as causation. When these conditions are present in mad-itch, they must be simply co-incidental, since this affection certainly occurs without them.

ETIOLOGY.

In view of what is explained in the foregoing chapters, which, so far as I can find, reverses the generally accepted opinions about mad-itch, I came to the conclusion that it is of a specific nature, due to a cause not yet identified positively, but which I suspect to be some virulent agent of the nature of ferments, some form of micro-organism generating a poison within the body, or outside of it in proper media and temperature for their growth and proliferation. This poison would act directly on the nervous system. The nature of the blood suggests that it is deeply altered, and that its organized elements have been attacked by some agent as effective as that which causes apparently similar changes in authrax. I took specimens to examine with the microscope, but they were putrid before I reached home. From some others gotten later, I made cultures in various media—gelatinized beef broth, potatoe, etc., and raised crops of various microbes, but none of them I have as yet any reason to consider pathogenic.

I tested all the feed—hay, corn, water of pond, during twelve days on some cattle bought for that purpose from a place where no disease had occurred, but failed to produce it. The water had again frozen before this occurred, however, and the field surface water, (in hoof prints), I had no opportunity to test.

I took from one case a little serum from the arachnoid cavity, the conjunctive tissue beneath rubbed surface, and a drop of blood in the heart, mixed the whole with a little tepid water, and inoculated a one year old bull with this substance in the right ear and right side of neck. Ten days later the bull died with symptoms of mad-itch and presented its lesions at post-mortem examination. Now this bull was purchased away from the pasture where

the disease occurred; he had never been there and had been on a healthy diet with a lot of other cattle without any change for several months. I left him where I found him, with his bunch of cattle, and he *only* died, although they were all treated alike, with the exception of this inoculation. Unfortunately I was urgently called away, and could not proceed in the line of my work for some days after my specimens had decomposed.

I am aware that this single inoculation and its results are insufficient to satisfy the mind of the scientist and the professional, but it is at least very suggestive, and to me it is more than that, because I know under what condition the experiment was carried. I must wait for another outbreak to take up the chain of my investigations. At this point, however, I feel justified in saying that, if the exact causation is not yet determined, we have at least established positively one very important point, and I consider this achievement of great value to stock raisers, veterinarians and scientists generally. To the former it is a matter of finance; to the latter, a matter of finance and scientific interest. I mean that the pathological nature of so-called mad-itch is comparatively well proven by the cases I had the good fortune to study. Whether further investigations sustain my suspicions or not, regarding the immediate acting cause of mad-itch, its nature is now to me entirely different to what I had been led to believe, and this knowledge is of great value in my official capacity. And again, regarding the great resemblance of this disease and hydrophobia or rabies in their respective peculiar symptoms and lesions, there is a point of much interest to the student's mind.

From my imperfect researches regarding mad-itch, which I believe are the first made, possibly some more able men may experiment and lead the practitioner to some good practical result, and thus benefit the profession and the country.

TREATMENT.

The various medicinal and other curative treatments have been with me a total failure. Suitable physics, diuretics, antiseptics, stimulants, antifebriles, narcotics, antiphlogistics, etc., have been tried in proper time and manner on different occasions, and none gave good results. Cold packing properly applied, and bleeding,

were also resorted to uselessly. I need not name all those treatments in particular; suffice it to state the class of curative treatments tried.

As preventives, frost and isolation from the place where the disease occurred seemed of positive benefit every time it came to our aid. When it froze hard the disease stopped a few days after, whether the cattle were left where they took sick or not. If I moved the stock to healthy and dry quarters away from the grounds, (which I am tempted to call infectious), the disease stopped after a few days. Before I practiced this form of quarantine, more cases died at each outbreak. Once twenty-one or two died of a herd of thirty. They were a mad lot.

Possibly further work may lead us to much more practical and beneficial results. Perhaps drainage, for instance, will in this case, like in some well-known specific maladies, come to our assistance if we can present evidence of infectious grounds or water. Again we may find some means of disinfection practicable to some extent?

I respectfully submit this paper to my professional brethren for their analysis and criticism, trusting to meet fair judgment, and that some able scientist may sift the matter thoroughly. I present the matter in a hasty manner, writing from notes while traveling and having no work whatever on hand. Therefore, I beg some indulgence for the embarrassed literature.

ORIGINAL ARTICLES.

THE VETERINARY PROFESSION: ITS OPPORTUNITIES AND NEEDS FOR THE FUTURE.

By W. Y. WILLIAMS, V.S.

In whatever station or pursuit of life, it behooves men to pause occasionally for a time, and make a careful reckoning of their surroundings; to look carefully into the past and consider the forces which have been at work; then examine critically their present status, determining what useful or baneful effect this or that force has exerted, and in what essentials their present position differs from that which should have been attained or desired;

and then, turning to the future, ask what are their prospects and possibilities, and what need they do to attain and secure them?

Meeting here to-day as the representatives of our profession in Illinois, what question can we consider which is of more importance to the public or ourselves than our present standing, the influences which have brought it about, and our future outlook?

What, then, are the forces which have operated upon our profession in the past, and what, then, the present result of those influences?

It is unnecessary and impossible in this paper to insert a history of the veterinary profession in America, but we do need to trace the general outlines of this history in so far as is necessary to the elucidation of our subject. As nearly as we can determine, veterinary science was practically unknown in America until sixty years ago, the health and life of domestic animals being intrusted to the care of the blacksmith, horse trainer or stable groom, but about this time the increasing value of our live-stock presented a possible field for usefulness and reward to a few of the educated veterinarians of the old world, and so we note from this time, the occasional migration to the cities of America of learned veterinarians from Europe, mostly from the British Isles.

Here the worthy ones, by demonstrating their superiority over the village blacksmith and stable groom, in the management of animal diseases, won an honorable and remunerative patronage, and the title of veterinary surgeon began to be known and understood in some of our eastern cities.

But while these few scientific men were establishing themselves, their success gave increased virility to empiricism, that most pernicious influence, which spread its baneful work over the entire continent and still holds a firm and destructive sway in nearly every if not every, part of America.

No sooner had the veterinary surgeon attained an honorable standing and lucrative patronage, than many of the ignorant, drunken, depraved horse traders and livery stable hangers-on, whose chief capital was reckless presumption and dishonesty, ever anxious to obtain a dollar, regardless of the means, conceived the idea of constituting themselves veterinary surgeons, and accordingly announced their suddenly assumed title of veterinary surgeon.

in flaming colors, their spelling of "veterinary" being frequently original, if not comic.

They prospered, they increased, they multiplied, their numbers seeming inexhaustible, always keeping pace, in numbers, with the increase of live-stock, and frequently exceeding the demand.

Owners of diseased animals were left to the mercy, in almost every locality, of these unprincipled charlatans, who used the popular ignorance upon veterinary matters for their financial benefit, and soon became adepts at dispelling "wolf in the tail," "hollow horn," and "loss of cud," in cows; "moon eyes," "hooks" and "chest founder" in horses, and aggregations of currency in people's pockets.

The ignorance of the general public seemed so profound that many apparently thought veterinarians were merely born so, and scarcely thought of the existence or need of veterinary colleges for their theoretical and practical education, and from this state of affairs, as well as the character of the men claiming to be veterinary surgeons, developed the idea—which still exists to some extent—that veterinarians cannot and need not be gentlemen, and this feeling has exerted a powerful influence against the adoption of the veterinary profession as a vocation by worthy men.

Among the more intelligent of stock owners there gradually grew, however, a desire for more rational treatment of diseases of live stock, and to assist them in attaining some of the rudiments of veterinary science and enable them to cope with some of the common ailments, they turned to the popular and then useful writings of Youatt, Spooner, Clater and others; and slowly, the stockman became more or less skilled in the diseases of animals, and his services were demanded and obtained by the neighborhood.

In the meantime the educated veterinarian from abroad slowly made his presence more favorably felt in his immediate vicinity, and among the best classes there grew a demand for more qualified men, but from whence should they come? The prospective honors and emoluments were not such as to permanently attract many first class men to our shores, and amongst the arrivals many were doubtless inefficient, but there were some men of solid

worth, whose zeal and self-devotion to their work, at that day, secured benefits to our profession which many of us but feebly comprehend.

Later, as the demand for qualified veterinarians became partially recognized, and before there was a sufficient learned force, or a sustaining demand for such institutions, veterinary colleges began to appear, at first proving sort of still-born monstrosities, followed closely by a few premature, sickly, short-lived affairs; not wholly fruitless, however.

The first college was announced at Boston about 1855, but seems to have been without a qualified V. S. or M. D. in its faculty, without building or curriculum, and its operations seem to have consisted merely of receiving fees and issuing diplomas.

In the immediate succeeding years, through the more healthful demand for such institutions, after many trials and disappointments, veterinary colleges finally became fixed institutions of the country, still, like to-day, they were imperfect and called for much enthusiasm and self-denial to induce competent men to undertake the enterprise.

The finances of most veterinarians were inadequate to thorough equipment and ready support of a college, and as a paying number of students was difficult to obtain, most lecturers were compelled to practice for a living, when practice offered, and lecture for glory in their leisure hours. But glory does not appease hunger nor allay thirst, and so it seems that the meager college income frequently caused internal dissensions which threatened the existence of the institutions.

Gradually, as the demand for qualified veterinarians became steady and reliable, the tottering colleges became settled, and their influence in moulding the then shapeless veterinary profession in America became apparent.

To fully appreciate the influence of these colleges we must bear in mind their inadequate financial support, which necessarily caused corresponding deficiency in buildings, appliances, and in the number and quality of teachers, so that it frequently happened that a layman or M. D. was assigned to a lectureship upon subjects which should have been taught only by a veterinarian. Not

that we condemn the lecturing upon some subjects by M. Ds., but that such lectures should be confined to such subjects as the lecturer, by his education, is especially adapted to teach.

The demands of the lecturer's private practice upon his time often passed the bounds of policy and denied the student important instruction, for which he had already paid a fee; and yet, what was to be done?

A large part of the public still exerted an evil influence upon the success of the colleges, by their attitude toward graduates, considering them as a sort of necessary evil, useful in cases of emergency or colic, at other times an unmitigated nuisance, similar to the empiric, and not very distantly related to the vagrant, scoundrel or ignoramus, regarding them approachable in any way for money consideration; devoid of social or educational standing, wholly unrecognized by the medical and other learned professions.

With these influences, it is quite natural that the colleges should draw largely for their students upon men from the lower walks of life—the broken down jockey, the ruined race horse gambler or the empiric's son, cherishing a morbidly profound reverence for his father's ideas, or the empiric himself, desiring a diploma for a cloak—yet we honor the practising non-graduate who sees his error, and qualifies himself that he may be a better man, a true veterinarian, and would not in any way prevent their taking such a course.

Slowly, higher-toned public sentiment brought new and better influences to bear upon veterinary education, some colleges obtaining valuable financial and other encouragement, and also there being established veterinary professorships in many of our agricultural and polytechnical institutions, which exerted a powerful influence for good, insuring to the lecturer social and scientific respect, with reasonable salary and appliances. And the honorable position of the lecturer made his profession honorable in the student's eye, bringing worthy young men into such relations as to interest them in veterinary science, and, being generally liberally educated, and acquiring thorough training in the collateral branches, their services were rendered quite beneficial to the profession at large, and in their turn influencing other capable young men to become qualified veterinarians.

The National and State Governments, through their efforts to extirpate and prevent the spread of contagious disease, have unintentionally done much to advance our profession, by employing almost exclusively well qualified, scholarly gentlemen, of honor and integrity, who by their extensive associations in their official capacity, and undoubted usefulness to the stock owner, have favorably influenced the sentiment of the general public.

The United States War Department, on the other hand, seems unfriendly to veterinary science, allowing a starving salary and a rank just below a private, all ranks above being filled.

We note with amusement the boast of a New York veterinary college that it has a lien on, or control of, the veterinary appointments to the United States Army, and suggest that they get their lien copyrighted, for if all accounts be true, the position of army veterinarian is not one to be coveted.

The public press, especially agricultural and live stock journals, has wielded a notable influence, each usually having its veterinary column, generally presided over by competent and gentlemanly veterinarians, their influence for good or evil varying with the men and the times.

Heretofore, as now, these columns have been largely devoted to gratuitous prescriptions for cases briefly described by letter, by a supposed subscriber—doubtless proving in many cases of earlier days, when veterinarians were few, quite beneficial to the anxious inquirer—and has drawn public attention to the fact that there is a veterinary science, distinct from empiricism, (and perhaps some empirics have learned to spell "veterinary" by having seen it in the papers], but such a column has not been an unmixed good to the profession, or if it has, it is about the only purely good thing, except Christianity, that comes "without money and without price."

Many of these columns are now injurious and unprofessional, proving disastrous in various ways. Such gratuitous prescriptions are not considered professional by M. Ds., and why should they be with us? It often puts a false estimate upon the veterinary editor, surrounding him with a mysterious sort of halo, which sometimes dazzles and leads him to false conceptions of his own

greatness ; or, if the inquirer tries his remedies, prescribed by guess, the editor may sink low in the inquirer's estimation, dragging down his brethren with him, leaving Inquirer to believe that all veterinarians are like the editor, too ignorant to cure an animal without seeing it, or having any good grounds upon which to form a safe diagnosis.

But the worst harm comes to the young, struggling practitioner, who is perhaps treating a case, having made a proper diagnosis, but the owner becoming dubious of the young man's attainments, and annoyed at the slow progress of the case, writes a short description to the majestic veterinary editor, who replies through his column, giving a wholly different diagnosis, &c., which the owner accepts as necessarily correct, as the *editor* says so, and discharges the young practitioner unceremoniously, and in the most discouraging manner.

We have seen these influences, and know just how one feels. Gratuitous prescriptions also mislead well meaning stock owners to attempt the treatment of serious cases, without the assistance of an available practitioner, until too late for success, when the practitioner gets the blame for bad results, and with him the profession at large, the owner concluding both to be inefficient.

Veterinary columns have been so conducted, however, that they were beneficial to subscribers, publishers and the profession : wherein the editors have taken up topics of universal interest to live stock owners, regarding contagious or epizootic diseases, their characters, history, causes, means of extirpation or prevention ; or the dangers to the public health through contact with the affected animals, or through the consumption of meat or milk from such animals ; or regarding some other of the more common ailments, their causes and prevention ; or any topic regarding the maintenance of the health of our domestic animals.

Some of our States have so far advanced in sentiment as to enact laws for our protection which have drawn educated members of the profession down to the level of empirics, the effects, so far, apparently proving the opposite of what was desired, assisting the empiric and crippling the qualified practitioner. Such a law was attempted in our State, but we believe we are fortunate that it has not passed.

With such influences at work for half a century, what is our present status?

Everywhere there exists a stronger and ever increasing sentiment in favor of a higher standard in veterinary education. In all communities the sentiment has changed, and even the empiric lays aside his once proud title of farrier or horse-doctor and assumes the title of veterinary surgeon or M.R.C.V.S. True enough he still exists, but the number is stationary or on the decline, and his influence is decidedly on the wane.

Scattered everywhere in important live-stock districts, there are veterinary surgeons from this or that college, mostly young men, largely well-meaning, judicious and earnest, who by their own merits occupy honorable positions in their communities and a fair or lucrative patronage, while others occupy honorable positions in the employ of State or National Governments, where their work does much to give our profession standing.

The press of the country, we believe, is a unit in favor of high veterinary qualifications and are affording us much useful assistance by keeping, in one way and another, our profession almost constantly before the public.

We now have veterinary colleges presenting a variety of facilities and requirements, varying largely in their patronage and character of students, and in the qualifications necessary to entrance and exit.

Statistics of most of the colleges were not available, hence we are able to allude to a few facts only, to demonstrate, in a very imperfect way, their educational requirements.

For convenience, we will denominate the Ontario, Montreal, American and Chicago schools the old, and the University of Pennsylvania, Harvard, Cornell, University of Iowa, &c., the new schools, and will as far as possible treat them collectively.

The new schools claim to require at least a thorough common school education for admission, and we have no evidence at hand to lead us to suspect any deviation from the claim.

The old schools make less pretentious claims, and judging from observation, and from evidence at hand, in shape of communications, &c., of too personal a nature to allude to farther here

they fail to enforce any entrance examination worthy of the name.

In point of time, the new schools require three sessions of about nine months each, or a total of about twenty-seven months.

The old colleges vary in time, but are essentially the same. The Montreal college advertises the longest time, three sessions of scant six months, or a total of about sixteen months net attendance, excluding holidays, but owing to the very common and protracted absence of the principal lecturer, leaving the most important work at a standstill at any time in the sessions, and the minor subjects rather ineffectually looked after by assistants, it unfortunately brings the available time for the average student down nearly to the level of the others, but of course the time is there and opportunities are there, and the zealous student can go on studying, but too much like he could study on a farm.

The American college requires two sessions of scant six months each, including holidays, and one spring session, of apparently indefinite duration, or a net attendance of probably twelve months.

The Chicago college requires eleven months net attendance, and the Ontario college requires two sessions of not over five months each, including holidays, or nine months net attendance, for graduation.

Outside of lectures by medical gentlemen and laymen, the strictly veterinary staff appears to be about as follows: University of Pennsylvania 5,—2 experienced and 3 recent graduates; Chicago 3,—resident in Chicago, all experienced; Ontario 3,—at least 2 experienced; Montreal 3,—2 of whom are experienced.

Statistics as to the number of students attending and percentage of graduates, were not available to the extent desired, and lack of time prevented their being obtained.

1886-7.—Ontario College, of 355 students, graduated $37\frac{2}{3}$ per cent.

"	Montreal	"	46	"	"	$13\frac{1}{3}$	"
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"	American	"	60	"	"	$36\frac{2}{3}$	"
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"	1886-7.—Univ. of Penn.,	"	49	"	"	$20\frac{2}{3}$	"
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"	Chicago College,	26	graduates.			
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A comparison of these imperfect data shows that a college draws students in proportion to the percentage of students graduated each year, and in inverse ratio to the length of curriculum;

not that we would have it inferred that these questions always determine the student's choice at all, for the college having the most graduates to her credit naturally seems the most popular at first sight; and nearly all intending students consult their nearest veterinary surgeon regarding the college to choose, before making a selection, and this practitioner very naturally recommends his *alma mater*, so that the college with the longest list of alumni has or should have the most influential friends to induce students to choose that college.

The colleges requiring three sessions for graduation very naturally show a smaller percentage of graduates, as there are three classes, the members of only one of which are available for graduation, while the three years' time increases the probabilities of students dropping out from various causes. On the whole we believe that, were the data available, we would find that the ratio of graduates to the number of students who have attended the course prescribed, would reach ninety-five per cent. or upwards, a percentage probably unequaled, surely unsurpassed, in any class of learned institutions in this or any other country. Possibly these figures imply thorough teaching by the faculty and great aptness on the part of students, but more likely, we believe, they indicate a laxity in the examinations.

An encouraging sign of the times, however, is the fact that the University of Pennsylvania had enrolled in 1886-'7, forty-nine students who were willing to submit to a three years' course of nine months each, and we are credibly informed that Harvard and several of the veterinary departments in agricultural universities are reasonably well patronized. That they will prosper more and more each year should be the fervent wish of every veterinarian who has the true interests of his profession at heart, and still more fervently should we hope that those we have chosen to denominate "old" colleges, should soon find sufficient financial and moral support to enable them to advance to the same position as to requirements, as we feel sure all interested parties already admit that a full three years' course is at least short enough.

(*To be continued*).

SUGGESTIONS IN THE TREATMENT OF INJURIES OF TENDONS.

BY R. W. FINLAY.

(A paper read before the N. Y. State Veterinary Society.)

It has fallen to my lot during the past year to meet with several cases of *injured flexor tendons* among the trotting class of horses, many of whom have figured conspicuously in the *twenty* and *thirty* class, rendering them particularly interesting to me, from both a surgical and financial standpoint.

The former condition, while it treats of the variety and nature of the wound inflicted, and its intimate relationship to the function of locomotion, presents phenomena and exigencies arising therefrom, calling for all the acumen the surgeon possesses. Particularly so is this noticeable when, as it frequently happens, the accident occurs at some distance from the stable, and, as in several of the cases I am about to report, has taken place where modern appliances have been impossible to obtain. Of course, such are the fortunes of war—and no doubt many would suggest following the adage, “In time of peace prepare for war.” But I may answer that in spite of all well regulated plans, we will be occasionally surprised, or our supplies may run out. Under such circumstances we naturally feel justified in utilizing whatever there may be at hand that will aid us in dressing the wound under just such circumstances.

On the night of April 10th I was called professionally to treat the sorrell gelding *George*—record 2:26—who, while being driven before a top wagon, was run into from behind. The wagon was overturned and its occupants, a lady and gentleman (the owner of the animal), thrown out. The gentleman was dragged some distance. Both occupants of the wagon fortunately escaped unhurt, though somewhat shaken up. The gelding, in his frantic efforts to free himself from the wagon, lacerated the right and left hind legs about junction of the middle and the lower third of the metatarsal region posteriorly, lacerating the right for a space of one and one-half inches, completely reducing the sheath and the posterior tendon to a mass of pulp. The left was the recipient of distinct attention from probably the edge of the axle, for a space

of about two inches in length by one and one-quarter inches in width, crushing through the sheath, the posterior tendon, and severely injuring the other.

The fetlocks both went down and the toes turned up slightly. The animal exhibited evidence of great distress with profuse diaphoresis and nervous excitement to a degree pitiable to behold. I make it a rule to inject hypodermically five or six grains of morphia to allay pain and render the dressing of the injured tendons easier.

I had the animal supported by placing a plank under the abdominal region, the ends held by a couple of lusty fellows, while with the aid of another I placed a large roll of oakum around the legs from the lower border of the hock to the foot, over which I passed all the bandages I could make out of a light road blanket. An ambulance had arrived by this time, the animal was placed in a sling and taken quietly to the stable, a distance of about four miles, arriving there at about one o'clock in the morning. He was carefully removed from the ambulance, carried into the stable, placed on the elevator, sent upstairs, carried to a stall and placed in slings. He was given another hypodermic injection of morphia, allowed oatmeal water and hay until morning, when shoes containing a bar running across the heels, elevated three and one-half inches from the floor, were nailed on. This standing on an inclined plane has been one of the most strikingly beneficial features with me in the way of treatment of this class of injuries. I prefer having the bar to extend backward and from the heels, sufficient to give a good foothold on the floor.

The following morning, on removing the dressing preparatory to setting up in plaster of paris bandages, the extent of the injuries were so formidable that I determined to hermetically seal with plaster bandages the legs from the lower border of the hocks to the coronet, as a means of support, intending to remove sufficient for an opening for dressing further on when the discharge forming would warrant. Acting on this impulse, I dressed with a two and one-half per cent. solution of carbolic acid, dusted the wound over with powdered willow charcoal, covered the leg with oakum, and applied plaster bandages immersed in water to moisten the plaster contained in the meshes of the muslin. I generally apply three

bandages of about four inches wide and three yards long, after which a thin solution of plaster is spread over all the leg, held in proper position until the plaster has set, which generally takes about ten minutes, when the opposite leg was treated to the same dressing. It is surprising the degree of comfort that is manifested when the dressings have set.

There is always a certain degree of surgical fever present in these cases which calls for mild measures of the aperient, diuretic and tonic type; the food to be of a laxative variety and a liberal supply of water containing a sprinkling of oatmeal. Careful watching for destructive changes in the neighborhood of the injuries, day by day, did not reveal the necessity for removal of bandages in order to dress antiseptically until the 18th, or eight days after the accident, when removal of the dressings revealed a comparatively safe molecular death of parts that would warrant the same method being adopted as before described, with this exception, that I dressed only the left leg. The right received attention the day following.

Seven days subsequent to this I dressed the left leg, when a slough compassing two inches of the sheath and posterior tendon came away, leaving a pretty healthy looking edge of wound. I cleansed the wound with solution of carbolic to which was added a small amount of tinct. aloes comp., dusted over with the charcoal. Applied oakum, covering over the whole leg from hock down, applying a dry bandage from below upward, in order to prevent discharge from forming pockets in the sheath of the tendons below the wound; after which applied plaster bandages as before described. Opposite leg dressed next day; slough somewhat smaller than the left. Same fair appearance of wound, exhibiting a granulating tendency; dressed it same as other. Animal pretty easy for a case of its magnitude. Appetite somewhat capricious. Bowels inclined to be costive; regulated with one gill of ground flaxseed in the evening feed. Allowed plenty of vegetables; disposed to relish carrots and apples. Vegetable tonics and mild diuretics given daily to improve general tone of digestion.

Eight days subsequent, which brings us up to May 3d, removed dressings of the left leg, when a clean looking granulating wound was exhibited that had filled about one-half the gap with good

reparative material. Dressed as before, exerting less pressure from below than in previous dressings. Plaster bandages applied as before. Dressed the right leg at same time. Same good appearance as in the left; reparative process rather better established. From this time out animal bears more weight on heels, eats well and has filled out in the flank somewhat. Coat looks bright; disposition cheerful; excretive functions normal.

May 9th.—Dressed wounds; have granulated, completely filling the gap, and slightly inclined to bulge. Dressed with solution chloride of zinc, twenty grains to the ounce, dusted with charcoal, dressed with oakum and plaster bandages as before. Both legs treated. Slings lowered a little at a time to prevent bed sores. Belly sponged with dilute vinegar as astringent. Animal inclined to bear entire weight at times on the legs alternately, right the longest.

May 14th.—Slings lowered. Animal moved a few times on the floor; moves fair. Legs somewhat stiff, but improved so much that he is placed in loose box containing sawdust on the floor instead of straw, in order to prevent tangling up in moving. Later in the day the animal laid down, and enjoyed it amazingly. After a few hours got up easy, but seemed to have sprained the left leg. Holds it up at times. Laid down again for several hours, got up safely and moves easier..

May 16th.—Removed plaster dressing from legs. Dressed granulating surface with powdered alum daily, using oakum and ordinary bandages. Animal moves carefully but safe.

May 22d.—Lowered heels one inch. No more bandages used. Alum dressing several times a day. Animal given walking exercise for fifteen minutes at a time, twice a day, gradually increasing amount daily. Legs showered daily with cold water and grows stronger.

May 30th.—Shoes lowered to one and one-half inches. Bar removed for safe exercising.

June 14th.—Animal exercising on street for a few days, then to a road-cart, finally sent to pasture.

History given in September: jumping every fence on the farm. During October was used in harness for depot work. During

November was showing up as strong as ever and said to be for a half-mile as fast as ever.

The nature of the wounds led me to use dressing of a permanent nature instead of the open window variety, as heretofore employed, experience proving that healing under the covered method gave the most flattering results, while offering the best possible protection.

Case 2. On July 23d, the grey standard bred mare *Gloriana*—2:26 class—met with a lacerated wound of the right hind flexor tendons, severing all support. The fetlock went down, the toe inclined upwards. There were several contusions in other parts. This one required same attention as given in the above case, and was dressed as above in every detail, at intervals of about eight days apart. On September 12th was exercising well for pasture.

Case 3. September 12.—Bay gelding, property of Dr. Quigley, met with a lacerated wound of the left hind flexor tendons. Presented same symptoms that characterized the above cases—same lowering of the fetlocks, same turning up of the toe, etc. Was subjected to the same plan of treatment as above described. In this case the sheath sloughed about one and one-fourth of an inch. The tendon, although bruised, did not undergo sloughing, and on October 4th was under walking exercise, gradually getting stronger during the month. In the early part of November had recovered sufficiently for light work in doctor's phæton.

DISEASES OF THE SKIN AMONG DOMESTICATED ANIMALS.

BY GEORGE MULLER, PH.D., Docent in the Royal Veterinary School
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(Translated by Wm. S. Gottheil, M.D., Instructor in Dermatology at the N. Y. Polyclinic
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(Continued from page 83.)

In the domestic cat we find:

1. *Sarcoptes-itch*.—The eruption begins on the head, but may spread over the entire body. At first the malady appears like the sarcoptes-itch of the dog, but later on it differs from it in appearance. Thick greyish-brown crusts appear; the skin becomes wrinkled, thick, plicated, and finally, quite hard and stiff.

2. *Dermatophagus-itch*, in the external auditory passage. The malady runs its course with the symptoms of an otitis externa.

Sarcoptes-itch occurs in lions and leopards, caused by *S. scabiei* (Delafond and Bourguignon, Johne). In the cases that have been observed, circumscribed spots appeared upon the breast, the abdomen, the back, and soon spread over the entire body. The hairs were lost, the skin was thickened and folded, and covered with crusts and scales.

TREATMENT OF SCABIES. The following antiparasitic remedies are used in these diseases by the veterinary surgeons:

a. *Aromatic phenol combinations.* The most efficacious of these is *creosote*, and then following, in diminishing efficiency, carbolic acid, benzole, petroleum, naphthol, naphthalin, tar, oleum cornu cervi, wood naphtha.

b. *Aromatic vegetable products.* Balsam of Peru, styrax, balsam of tolu.

c. *Alcaloidal plants.* Radix veratri, tobacco, and some obsolete vegetable drugs.

d. *Inorganic substances.* Arsenic, mercurials, sulphur, dilute sulphuric acid (Mörlin recommends this last 1:24 in horse itch).

Of these remedies the most useful are: for *sarcoptes-itch*, especially creosote, carbolic acid (1:10-20), sublimate (1:50-100), tar liniment (Pix. liquid., sapo. virid., spirit., aq., ää p. alq.), balsam of Peru, styrax, petroleum, ichthyol, (of doubtful efficacy).

For *dermatocoptes-itch*: creosote, carbolic acid (usually the raw acid for sheep), decoctum tabaci, arsenic solutions (for sheep; very efficacious, but extremely dangerous), oleum cornu cervi.

For the *dermatophagus-itch*, carbolic acid, tar liniment, benzine (1:5 sapo. virid.), petroleum.

16.—DEMODEX.

Three species of demodex are found in the skin of our domestic animals. *Demodex folliculorum canis*, *demodex phylloides suis*, *demodex cati*.

The first species is extremely like the *demodex folliculorum hominis*, but is somewhat smaller (0.2-0.3 mm. long), and has a more squarely-shaped head. They live exclusively in the hair follicles and the sebaceous glands of the dog, in which they may be

found to the number of 30-60, (exceptionally as many as 200); they then cause a violent impetiginous dermatitis with defluvium capillorum, thickening of the skin, and crusting. The bluish-red pustules show the site of the sebaceous glands, and on pressure a bloody purulent mass can be evacuated, in which numerous acari will be found. In this severe form, the eruption begins as a rule on the head, spreads gradually over the entire body, and finally causes general emaciation and death.

In rare cases the eruption remains limited to certain spots, (especially around the eyes), and appears as moderately intense dermatitis erythematosa with desquamation of the epidermis.

Itching is usually absent in this malady; in fact, the dog generally shows evidences of pain when the affected parts are rubbed. *Demodex canis*, according to Zürn, is sometimes transferred to man, and then causes an itching, pustular eruption, which, however, is easily curable. The experiments made by Gruby, of transferring *demodex hominis* to the dog, caused falling off of the hair, but no dermatitis pustuloso.

Demodex phylloides suis, causes a pustulo-ulcerative eruption in the pig. According to Croker, there appear pin-head to hazel-nut sized swellings on the flanks, neck and breast. These gradually coalesce, and form larger or smaller ulcerations.

Demodex cati has been found in the neighborhood of the nasal openings, and in the fundus of the ears of cats.

Besides this, *demodex* has been found in isolated cases in cattle, (Faxon, Grimm), and in the Sambur-stag, (Prietsch).

Therapy.—The most appropriate remedies so far known are: balsam of Peru, (Seidamgrotzky), styrax, (Vogel), sulphuret of potassium solutions, followed by cantharidal ointment, (Brusasco), sublimate in 1 per cent. solution, and as salve, (Fröhner); less certain are balsam of tolu, naphtholin, sulphuret of potassium solutions. Only in very mild cases will it suffice to use salicylic acid ointment, benzine ointments, carbolic acid solutions, and ol. juniperi aethereum.

17.—ROUND WORMS.

There now and then occur, in the domestic animals, skin diseases which are caused by round worms. Thus Rivolta, Laulaine

and others describe, under different names, a rare skin disease of the horse, in which numerous nodules appear, which sooner or later suppurate and rupture, showing a varying quantity of worms in their interior.

In the dog, Siedamgrotzky saw a pustular exanthem upon the external surface of the anterior and posterior limbs. The cause of this he found to be small embryonic round worms, which had manifestly wandered from the straw of the litter into the hair-sacks.

Similar observations have been made by Rivolta on the dog, and Pflug, Druilly, and Semmer upon the horse.

18.—HÆMATOPINUS AND TRICHODECTES.

The *Hæmatopini* (*Pediculi*) are blood-suckers which cause a troublesome itching, and hence rubbing, scouring, and gnawing, which may lead to the formation of a dermatitis artificialis. Almost every variety of animal has its own species. Thus the domestic and the wild swine harbor *H. urius sive suis*; the horse, *H. macrocephalus s. equi*; the cow, *H. eurysternus* and *H. tenuirostris*; the goat, *H. stenopsis*; the dog, *H. piliferus*.

The *trichodectes* do not suck the blood, but feed on the epidermis and gnaw the hairs with their forceps-like jaws. The dog has *Tr. latus sive canis*; the sheep, *Tr. sphærocephalus*; cattle, *Tr. scalaris*; the horse, *Tr. pilosus*; the goat, *Tr. climax*; the cat, *Tr. subrostratus*.

Treatment consists in the application of remedies that either prevent the access of the lice to air (closing up the breathing-holes), or poisons them. To the first belong the fatty oils, especially rapidly-dying linseed oil, ashes, stone-dust, &c; to the latter belong decoctum nicotianæ, unguentum hydrargyri, (cattle are easily mercurialized!), sublimate solution (1:100), flores pyrethri, semen sabadillæ, semen staphidis agriæ, radix veratri, oleum anisi aethereum, (1:10 oil), benzine, petroleum, carbolic acid, (1:10 to 20), arsenical solutions (1:200), oleum cornu cervi.

19.—IXODES, DERMANYSSUS, PULEX, SIMULIA, CESTRUS, OCHROMYIA, LUCILIA, LEPTUS.

The ticks, (*Ixodes*), especially the females (Koch), occasionally bore into the skins of animals by means of their very complicated

suction apparatus. They imbibe the blood, and then swell up into a cherry to bean-sized vesicle. On cattle and sheep, we find *Ixodes rednirus*; on men, dogs, cattle and sheep, *Ixodes vicinus*; on men and animals in the American forests, *Ixodes Americanus*, sive *Amblyoma Americanum*; on pheasants, *Ixodes Dugesii*, which is said occasionally to appear on sheep and dogs. By touching the animals with turpentine or benzine we can make them loosen their hold.

The common bird tick, (*Dermatyssus avium*), is found in dung and wood-work of bird-houses, chicken-coops, swallows' nests, and the like. It affects all animals that come in the neighborhood, birds, horses, dogs, cats, and even men. It causes a violent itching, and even, (according to Steinback, Mobius, Prietsch and others), formidable itch-like eruptions. Megnin observed a cat upon whose skin the bird-ticks had acclimatized themselves, so that the animal had become quite emaciated; and Gassner found them in the external auditory canal of a steer, where they had caused an otitis externa.

The genus *Pulex* is represented in our domestic animals by two species, *P. canis* in the dog, and *P. felis* in the cat. Both differ from *P. irritans* in size, being smaller, and *P. canis* has a circlet of spines around head and neck which are absent in *P. irritans*.

Simulia maculata, (Kolumbaczer gnats), appear in spring in great swarms on the Danube flatlands, and attack animals and men for the purpose of sucking their blood. These gnats settle on the skin in such quantities that light-colored animals appear quite black; they penetrate into eyes, ears, mouth, nose, anus, vagina, etc., and cause small inflammatory tumors everywhere, and not infrequently kill the animal. Thus, in the Servian district, Passarawitz claims that in 1783, they killed 52 horses, 131 cattle, 316 sheep and about 100 pigs. Little children are also said to have been killed by them.

Oestrus bovis sive *Hypoderma bovis*, (cattle gadfly), cause in cattle, and more rarely in the horse, donkey and sheep, the so-called Dasselbenlen. The female in mid-summer lays her ova upon the skin of the animals. Later on larvæ appear, which

bore into the skin of their host, and then develop in the subcutaneous connective tissues. Then they act as foreign bodies, cause inflammation and suppuration, and gradually pigeon-egg sized tumors, which eventually rupture. The larvae remain about nine months in the spaces, then leave them through the opening already formed, and complete their further development in the ground.

Ochromyia anthropophaga, according to Raillet, cause a similar malady in the skin of dogs from the passage of larvæ into thin skin, as does the oestrus bovis in cattle. The nodules reach the size of a hazel-nut before they burst. They are most commonly found on the tail, ears and paws.

Lucilia serinata, (Jennes and Van Laer), which is probably identical with *musca Cæsar*, causes a disease in Dutch sheep, which is known under the name of "de Vliegenziekte de Schapens," and is caused by the fly in question depositing its ova under the skin in places where it is thin, and especially in the neighborhood of the rectum. The result is a sieve-like piercing, and more or less extensive undermining of the skin.

Leptus autumnalis, (harvest mite) causes not only in man, but, (according to Defrance and Fiedberger) in the dog, a pustular skin eruption. There appear on various portions of the body small red nodules, on which the mites are located. Later on, the nodules coalesce, and finally there are formed quarter-dollar sized irregular round areas, on which the skin is hairless, hyperæmic and thickened.

REPORTS OF CASES.

SOME PECULIAR TERMINATIONS OF POST-PHARYNGEAL AB- CESSES IN SOLIPEDS.

By L. C. WAKEFIELD, D.V.S.

In view of giving the readers of the REVIEW a chance for a more extensive prognosis in cases of post-pharyngeal abscesses with diseased guttural pouches, provided they are not called until the animal is in the last stages of the disease, as has been the case in my practice, I subjoin two cases that I have met with lately, as they differ from most cases that I have seen which have proved

fatal from starvation. Some time ago I was called to see a twelve-year-old mare. Found her lying down in her box; her owner gave history of her case as follows: "Bought her in a pasture with some other horses a few weeks ago; first noticed that she didn't keep in as good condition as the others, carried her head low and a little to the left, quidded her hay and swallowed with difficulty. She kept growing poor, and to-day had been found bleeding profusely from both nostrils; she bled until she sank from exhaustion and then the bleeding soon stopped." A physician who was present at the time pronounced it hemorrhage from the lungs. An empiric who had been treating her previous to this time agreed with the physician, and left homeopathic medicine, which, in fifteen drop doses three times a day for eight days, would effect a complete cure. Unfortunately, I could not agree with them either in diagnosis, prognosis or treatment. On examining the fauces, could find nothing abnormal excepting a relaxed condition of the muscles. I diagnosed the case as a post-pharyngeal abscess, with an ulceration of the right guttural pouch which had caused a rupture of some artery. I gave a very grave prognosis, and prescribed stimulants, tonics and all the food she could swallow. She soon became stronger, and in two or three days, the weather being warm, she was turned out to graze. On going out to get her at night the owner found her dead, lying beside a large pool of blood. He sent for me to make a post-mortem, which I did the next morning. A shower hurried the post-mortem, but I found a large ulcer in the guttural pouch on the right side, involving the Eustachian tube and tissues as far as the posterior nares. The muscles posterior to the pharynx were infiltrated with pus, and evidences of profuse hemorrhage from arterial branches involved by the ulcer.

The next case of the kind was at the "Malorm Stock Farm." The patient, a five year old Hambletonian mare, had a peculiar greenish discharge from both nostrils; she did not thrive well during the past winter, and within the last five weeks had grown poor very fast, drank with difficulty and had this peculiar greenish discharge from the nostrils. There was soreness evinced on the right side of throat, a peculiar stiffness of the neck with the head

inclined to the left and held low. The right ear drooped slightly ; there was a slight fetor of the breath diagnostic of necrosed tissue. I took all food from her, had her nostrils washed out and then watched for the discharge, which I found became clear and slightly viscid and was nothing but saliva, which in her efforts to swallow had passed back down her nostrils. Examination of the fauces showed nothing abnormal, but a relaxed condition of the same. Diagnosed a post-pharyngeal abcess, involving the right guttural pouch and Eustachian tube. Prognosis very grave with the probability of another post-mortem. The mare's appetite being good, I allowed her to eat all she could swallow. Gave electuaries of potassium chlorate, belladonna and treacle, also enemas of alcohol and milk ; applied counter irritant to throat externally. After she had got more strength I intended to open the right guttural pouch. She was considerably emaciated and quite weak from the fact that the greater part of the food she masticated passed back through her nostrils, when she tried to swallow, thus accounting for the greenish discharge, which was nothing but hay mixed with saliva. On the morning of the third day after my first visit, I found her condition somewhat changed ; her hitherto normal temperature was now 104, respiration 25, pulse 76. Diagnosed traumatic pneumonia, caused from ingesta passing down the trachea in the attempts to swallow. Patient had loss of appetite and great thirst ; could swallow but very little, and was in considerable pain ; she grew rapidly worse and within thirty-six hours death came to her relief. I immediately held a post-mortem, and found a gangrenous condition of the right guttural pouch ; the Eustachian tube of the same side was wholly necrosed and the bone surrounding its base was bare. On incising the muscles on the corresponding side, I found an abcess containing ichorous pus, and a necrotic discharge from the underlying bone. The capsular ligament of the occipito-atloid articulation adjacent to the abcess was necrosed, and on opening the articulation, I found the right condyle of the occipital bone and the corresponding articular cavity of the atlas were badly necrosed. The left guttural pouch and adjacent tissues were all normal. On examination of the trachea, I found inside a quantity of saliva and some

finely masticated hay which had passed into the trachea during the frequent attempts of deglutition. On further examination I found a violent inflammation of both lungs, which I thought verified my diagnosis; all the other organs were normal.

A SINGULAR CASE OF CRAMP LASTING FOUR DAYS WITHOUT INTERMISSION.

BY THE SAME.

The patient was a large bay gelding twenty years of age of a very nervous temperament; was used steadily for draught work. March 17th I was called by his driver to put back his stifle; his driver said he had always been well. The day before he had worked as usual, but this morning he was unable to back him out of his stall. His off limb was perfectly rigid; he bore his weight on it and rested the other hind limb. I found there was no laxation, no tenderness, no swelling. The affected limb was much colder to the touch than the other; appetite very good, spirits good and everything else about him normal. All the muscles of the limb below the external angle of the ilium were in a state of tonic contraction, and he could not move it from the floor; attempts were made to flex and extend the limb by force, but they were of no avail. Potassium nitras was given in his drinking water, and laxative doses of magnesium sulphas in his feed. Counter-irritants with friction and hot fomentations were applied externally to the limb, but the tetanic rigidity continued without intermission until the fifth morning, when the muscles were in their normal state. The horse went to work immediately without any soreness in the limb, nor has he had any trouble since March 20th, the date of his recovery.

GASTROTOMY IN A ROOSTER.

BY W. R. HOWE, V.S.

On the evening of Feb. 10th Mr. John Oats brought to my office a fine game cock, which he said had swallowed a bone several days previously, and was sick. On examination a large movable prominence could easily be felt at the breast. After trying and failing to remove it by the mouth, and the owner declaring

that the cock was steadily declining and would soon die if not relieved, I decided to operate.

Clipping the feathers over the prominence, I made an incision about an inch long (parallel with the muscles) and right through the walls of the chest, exposing the crop. I grasped the crop with a pair of bulldog forceps; the prominence was easily found, and one clean cut made over it exposed a piece of bone which proved to be a strip from the upper part of the scapula, four and a half inches long, nearly half an inch wide, and averaging over an eighth of an inch in thickness, with edges rounded off as though worn—probably due to the process of digestion. Sponging the parts with a mild solution of mercury bichlo., I closed the walls of the crop with two uninterrupted catgut sutures, and turned the ends in; brought the external wound together with three wire sutures, and dressed with flexible collodion. The next morning the cock appeared bright, and eat well, and has since made a complete recovery.

VESICO-URETHRAL CALCULI.

BY THE SAME.

On Feb. 10th I was called to the Oakwood Street Railroad Co's stables, to see a horse which the Superintendent said could not urinate, but was not suffering much.

Being busy, I sent some diuretic powders and promised to call the next day, which I did. I found a good bay horse, about ten years old, with pulse normal and temp. 100° F. He looked a little dull; hair rough, back somewhat arched, but apparently not suffering any acute pain; appetite fair; a slight dribbling of urine from penis.

On inquiry I found that the horse had not urinated freely for over a year, but had not suffered any inconvenience until within a few days, when he began straining as though desiring to urinate. Appetite had failed somewhat, and the horse became weak. On examination per rectum I found the bladder full, and the animal evinced some pain on pressure. I attempted to pass an ordinary horse catheter; passed freely about four inches, when there appeared to be a stricture.

I got a number nine and number twelve human gum catheter; passed first the small, and then the large one through the stricture thus dilated until I could get a metal mare catheter through. It then passed four or five inches further, when it again came to a standstill. I could then plainly feel and hear the metal catheter strike a stone, but with some manipulation it apparently passed by. Then I took a regular gum male catheter, but could not get it past the stone until I used a wire stilet and bent the point slightly, turning the point downward and slightly to the left; then with some trouble I passed it to the ischial arch, when it refused to go further, but after withdrawing the catheter there was some little flow of urine, and by pressure on the bladder I got considerable urine away. Then I left, to call the next day.

Feb. 11.—Found the horse weaker; no appetite; pulse very fast. Temperature, $104\frac{1}{2}$ ° F. Some urine still dropping; sheath and perineum greatly swollen. I passed the catheter, and got through the first stricture, and after some manipulation I passed the stone and got as far as the ischial arch, but could go no further.

I now decided to operate, and cut down to the catheter at the arch (the same as for lithectomy); but on reaching the catheter imagine my surprise when I found that it (the catheter) was not in the urethra; but in passing the stone I had ruptured the urethra, and passed up outside of it.

I ordered the horse killed, and made a post-mortem. Following up the urethra, I found the mucous membrane healthy to the first stricture; from there on it was somewhat dark and congested. I found the stone larger than a hickory nut, and about that shape, with many rough projecting points, what, I believe, is called a mulberry calculus. The membranes and all tissue around it were completely broken down, but no external swelling nor anything else to show the condition from the outside of the penis. The catheter had broken through here and passed up alongside of the urethra in the areolar tissue, which was thoroughly infiltrated with urine. This had been the cause of the intense swelling. There were four strictures in the urethra above the stone mentioned, and in each stricture a small stone, varying

in size. Mucous membrane of bladder apparently gone or worn off; bladder full of a muddy substance, apparently composed of urine, mucous, and small particles of calcus matter.

OPEN JOINTS—THEIR TREATMENT.

By C. H. FLYNN, D.V.M.

The treatment of these wounds has been very gratifying to me during the last year. I think veterinarians have been too prone to condemn animals which are suffering from these accidents.

I have treated these lesions in the true hock joint, in the lower articulation of the hock, the femoro-patellar, the inter-phalangeal and the coffin joint. The majority of these cases have made complete recovery. Some have been attended with ankylosis, and a few have died or been destroyed.

I find it of great importance to get these cases at the earliest possible date, and before constitutional fever has begun. The age and vigor of the patient, as well as the sanitary conditions and surroundings, have much to do in the success of the case.

My treatment is, in brief, as follows: Place the patient in a clean, well ventilated and drained stall. Have all the litter removed, and insist on the stall being kept clean. Either place the animal in slings, or tie the head so as to prevent lying down. Clip the hair, and cleanse the parts well. I prefer the corrosive sublimate solution, one to the thousand, for a disinfectant.

Should the wound be of two or more days' standing, inject the joint with the corrosive sublimate solution. Now dry the parts with a clean towel and sprinkle the wound with iodoform; over this place a thick layer of absorbent cotton, well filled with iodoform; bandage securely, and keep the patient on a moderate diet, preserving the utmost quietude possible.

Should the bandage remain in place and the animal seem free from pain, leave the bandage and dressing in place from five days to a week; then change it, and should the discharge be little, do not disturb it, but renew the iodoform and cotton dressing, leaving it on for another week.

Should the wound not do well, and ulceration of the articulating surfaces become evident, inject daily with the corrosive sublimate solution, two to the thousand, and apply blisters over the whole joint. I have found the application of the actual cautery to be very beneficial in cases which seemed very intractable.

After the wound has closed, keep the animal quiet for at least two weeks, and then commence to give him exercise on the halter, gradually increasing it. Do not allow him to be put to work under a month.

ŒSOPHAGOTOMY.

By G. W. BUTLER, V.S.

On the night of August 24th, '87, I was called to see a cow that was choking from an apple being lodged in the lower third of the cervical portion of the œsophagus. After fruitless efforts to dislodge the obstruction by manipulation, the use of oil, etc., I resorted to the use of the probang, which also proved a failure—due, I think, to rupture of some of the muscular fibres of the œsophagus having taken place.

The next morning, after repeating my efforts to dislodge the apple, with a similar result, I concluded to perform œsophagotomy, which I did in the following manner :

After securing the cow's head to a fence post, I removed the hair over the obstruction, and with a scalpel made a clean incision through the skin and œsophagus, about three inches in length. After removing the apple I washed the parts thoroughly with a solution of corrosive sublimate (about 1 to 1,000), and with a tenaculum my assistant drew out the œsophagus far enough to enable me to fasten its cut edges by means of an uninterrupted suture, using silk thread for the purpose. The skin was then brought together in the same manner and a pledget of tow placed over the wound, being soaked in the above solution and held in position by a bandage around the neck.

The cow was fed nothing but soft food, and there was no suppuration after the operation until about ten days or two weeks, when the thread with which the œsophagus had been fastened

sloughed out, leaving a small opening through which a little food and water passed when the animal ate or drank. This, however, soon closed, leaving the cow as well as ever. I should have used carbolized catgut suture for stitching the oesophagus, but I did not have it. Had it been used, I am satisfied there would not have been the least suppuration.

During the operation I kept my hands and instruments well saturated with the corrosive sublimate solution.

IMPACTION OF THE RUMEN.

BY THE SAME.

On March 30th, '88, I visited a cow that appeared to be suffering from impaction of the rumen. I administered a cathartic, which caused fluid evacuations from the bowels, but the distressing symptoms of impaction still remained, and the hard impacted contents of the rumen could easily be felt with the fingers. Stimulants were prescribed for a day or two, after which another cathartic was administered, but with no better result.

Rather than resort to rumenotomy (an operation which certainly is accompanied with more or less danger), I adopted a plan which was new to me, at least. I inserted a large trocar and canula through the abdominal muscles into the rumen, and after withdrawing the trocar I passed a strong steel rod through the canula and stirred or broke up as much of the impacted matter as possible. I then injected a quantity of warm water through the canula, and repeated the puncturing and breaking-up process about six inches from the first puncture. Prescribed strychnine in 2 gr. doses twice a day, combined with bicarbonate of soda, and had the satisfaction of seeing my patient in good health in a few days.

While this operation might prove ineffectual in some cases, I believe it would do away with the more dangerous operation of rumenotomy in many others.

ABSCESS IN THE BRAIN, THE RESULT OF STRANGLES.

BY THE SAME.

The subject, a mare four years old, according to the owner's statements had suffered from a severe attack of strangles a few

weeks before, but had apparently recovered. She however seemed to thrive badly, and a few hours before I was called began to show serious brain symptoms. The eyes were amaurotic ; she walked with a staggering gait and in a circular course, turning to the left, and at the time I saw her she would occasionally lose her balance and fall to the ground. I apprised the owner of my suspicion of abscess in the brain ; also mentioned the possibility of the symptoms arising from some other lesion of that organ.

By my request I was notified of the animal's death, which occurred a few hours after I saw her, and I held an autopsy, which revealed a large quantity of pus in the left hemisphere of the cerebrum and left lobe of the cerebellum.

I think this case shows that there may be great destruction of brain substance before there are any distressing symptoms exhibited ; for, judging from the quantity of pus the brain contained and the short time the animal showed symptoms of brain trouble before death, there certainly must have been quite a collection of pus before any symptoms of brain trouble were manifested.

COLLEGE EXERCISES.

AMERICAN VETERINARY COLLEGE—SPRING SESSION.

The spring session of 1887-'8 at the A. V. C., closed up on the 14th of April with a matriculating class of fifty-five students. During the six weeks that the session lasted, the students received three lectures a day, in the afternoon, while in the morning their time was occupied in clinical studies, practical anatomy, microscopy and chemistry laboratory work. On the 14th of April the class passed an examination in the following branches : The anatomy of the function of locomotion, sanitary medicine, veterinary jurisprudence, horse shoeing, histology, physiology (proximate principles), chemistry (qualitative analysis). This examination will be made obligatory in the future, as the faculty consider it of great advantage to the student.

Mr. Mark Francis, of Glendower, Ohio, has received the silver medal offered by Prof. Lautard for the best examination in anatomy by the junior students.

NEW YORK COLLEGE OF VETERINARY SURGEONS.

The commencement of this institution took place on the 14th of March at the Carnegie Laboratory. The president of the college conferred the degree on the following gentlemen:

Burns, P.....	New York.
Culbert, T. S.....	Indiana.
Henning, Henry.....	Pennsylvania.
Kelly, James.....	New York.
Kenny, M.....	"
Mayer, S. S.....	Pennsylvania.
McLean, R.....	New York.
Orlapp, B. G.....	Missouri.
Prathero, Wm. B.....	Pennsylvania.
Roberts, Geo. H.....	New York.
Schlosser, Chas.....	"
Tasme, Aug.....	Georgia.

A majority of junior students, having passed their first examination on anatomy, *materia medica*, physiology and chemistry, were awarded the junior certificate.

Mr. Kenny was awarded the first prize—a gold medal—for best general examination. Henry Henning received first prize in anatomy, also a special prize for the best mounted skeleton of a horse. Aug. Tasme was awarded a silver medal for injected specimen. Geo. H. Roberts, of the graduating class, delivered the valedictory.

The proceedings terminated by a banquet, given by the graduating class, at which the faculty and friends of the college and students were present.

ONTARIO VETERINARY COLLEGE.

The closing exercises and presentation of prizes of this college took place in Richmond Hall, when Dr. Duncan gave the following names as forming the graduating class for the session:

Ackland, Geo. F.....	Forfar.
Allis, N. H.....	Nyalusing, Pa.
Anderson, J. P.....	Guelph.
Anderson, Robert	Comber.
Armstrong, James A.....	Stratford.
Austin, David G.....	Essex Centre.
Babe, Thomas.....	Caledon.
Baker, Trayton F. F.....	Oakville.
Baker, Wallace L.....	Lafayette, N. Y.
Balliett, A. H.....	Balliettsville, Pa.
Bell, Charles F.....	Arcanum, Ohio.
Berry, Robert G.....	Sherbrooke, P. Q.

Bland, Charles.....	Lincoln, England.
Bland, J. W.....	Calgary, N. W. T.
Bowker, Glenn.....	Groton, N. Y.
Bracken, W. J.....	Brampton.
Booker, Frank.....	Carlingville, Ill.
Bradley, J. E.....	Gananoque.
Buckingham, Jabez D.....	Essex Centre.
Burger, Wm.....	Hornby.
Burke, J. C.....	St. Thomas.
Brackin, G. E.....	Caledon, E.
Campbell, Arthur E.....	Buffalo, N. Y.
Campbell, James.....	Strathroy.
Campbell, W. D.....	Ridgetown.
Carpenter, Howard T.....	Manhattanville, Kans.
Carpenter, Tom.....	San Francisco, Cal.
Carter, Geo. H.....	Guelph.
Chase, Jesse M.....	Sherwood, N. Y.
Clute, H. P.....	West Shelby, N. Y.
Collins, George.....	Hespeler.
Cook, F. W.....	Hutchinson, Kans.
Cornell, Chester E.....	Thedford.
Coutts, J. J.....	Crosshill.
Coxe, William.....	Nassagawaya.
Dengler, H. O.....	Quakertown, Pa.
Dann, William.....	Lucan.
Davies, Charles.....	Alton.
Edwards, Edward.....	Lima, Ohio.
Erb, N. S.....	Guelph.
Findlay, James J.....	Williamstown.
Fox, John H.....	Guelph.
Gable, E. E.....	Meadville, Penn.
George, J. H.....	Crampton.
Gilbank, F. G.....	Birr.
Glass, Wm. H.....	Australia.
Graham, Joseph.....	Port Perry.
Graham, Newton.....	Zephyr.
Gruber, C. D.....	Obolds, Pa.
Green, David.....	Ridgetown.
Hagyard, E. W.....	Lexington, Ky.
Hanbridge, Thomas.....	Mount Hope.
Heighway, J. G.....	London.
Hickingbottom, Robert.....	Balsam.
Hill, James A. T.....	Chicago, Ill.
Hoffman, Frank W.....	Waterloo, Ind.
Inger, J. D.....	Strawberry Point, Iowa.
James, A.....	Ottawa.
Jackson, A. W.....	Abingdon.
Johnston, James H.....	Croton.
Johnston, S. H.....	Chesley.
Johnston, Benjamin.....	Davenport.
Johnstone, J. A.....	Trafalgar.
Kennedy, John T.....	Bloomington.
Kent, F. B.....	Bracebridge.
Kimmell, D. E.....	Greensburg, Pa.
Kydd, W. H.....	Warren, Ill.
Lake, Constant.....	Wooster, Ohio.
Lambertus, Joseph.....	Teeswater.
Lawson, John A.....	Walkerton.
Leary, Daniel.....	Kendall, N. Y.
Lindsay, W. H.....	Hornby.
McCapes, Adelbert.....	Vermilion, Dak.

McGregor, J. D.....	London.
McKenna, W. C. S.....	Brampton.
McLean, W. A.....	Lucan.
McQueen, E. D.....	Port Dover.
McMahon, D. T.....	Chicago, Ill.
McDonald, Fred. S.....	Toronto.
Merillat, L. A.....	Kochs, Ohio.
Millar, John James.....	Calgary, N. W. T.
Morris, Claude D	North Reading, N. Y.
Mouller, G. D.....	Fayetteville, N. Y.
Newby, Thos. B.....	Charleston, Ill.
Orr, A. E.....	Milford, Kansas.
Paget, Henry A.....	Loughborough, England.
Paige, H. E	Amherst, Mass.
Paxton, John S.....	Fredricksburg, Ohio.
Phillips, John R.....	Dewittville, N. Y.
Porter, Joseph W.....	Mount Vernon.
Powell, J. H.....	Theford.
Power, Richard H.....	Barrie.
Quin, Abner H.....	Edmonton.
Readhead, R. T.....	Lowville.
Robinson, Samuel G.....	Galt.
Roe, J. S.....	Milverton.
Roe, J. A.....	Milverton.
Rossiter, A. J.....	Salem, Oregon.
Rossiter, Edwin W.....	Salem, Oregon.
Rowe, H. M.....	Strathroy.
Rowlin, G. H.....	Hamilton.
Russell, W. T.....	Nashville, N. H.
Schwin, Payson E.,	Middleburg, Ind.
Scott, Walter J.....	Duncriff.
Scott, Andrew D.....	Duncriff.
Schaffter, E. P.....	Mount Eaton, Ohio.
Shepard, Edgar H.....	Geneva, Ohio.
Sherrick, F. W.....	Tarrs, Pa.
Sihler, Charles J.....	Simcoe.
Smith, R. V.....	St. Mary's.
Smythe, T. H.....	Grand Forks, Dak.
Speirs, Henry J.....	Manitoba.
Stevens, David F.....	Mount Morris, Ill.
Sutherland, Geo. H.....	East Saginaw, Mich.
Sloan, J. Langtry.....	Churchill.
Thompson, James D.....	Sharkleyville, Pa.
Thompson, Lewis H.....	Strathroy.
Vanantwerp, E. A.....	Grand Rapids, Mich.
Walker, Joseph J.....	Londesborough.
Walkington, John J.....	King.
White, James S.....	Elmira.
Wicks, Arthur G.....	Springfield, Mass.
Williams, George C.....	Fingal.
Wilson, John E.....	Thornton.
Zug, Frank M.....	Clarence, N. Y.

CHICAGO VETERINARY COLLEGE.

At the fifth annual commencement exercises of this institution, a class of twenty-two candidates received their degrees of D.V.S at the hands of the President of the College, viz.:

Lowman, H. B.....	Illinois.
Sayre, C. E.....	Illinois.
Plummer, A.....	Iowa.
White, H. A.....	Illinois.
Speilman, Charles.....	Illinois.
Kingery, S. H.....	Illinois.
Kraus, J. J.....	Wisconsin.
Roberts, E. D.....	Wisconsin.
Farmer, T.....	Michigan.
Sprengle, W. M.....	Pennsylvania.
Hilton, Joseph.....	Dakota.
Shipley, H.....	Iowa.
McKinney, W. H.....	Illinois.
Larrigan, O. J.....	Illinois.
Bush, I. M.....	Maryland.
Pyle, H. G.....	Illinois.
Phillips, S. E.....	Illinois.
Teegarden, C. E.....	Indiana.
McLaren, F. J.....	Illinois.
Ambrose, W. H.....	Ohio.
Kennelly, S. M.....	Illinois.
Bretz, S. E.....	Ohio.

The distribution of prizes followed accompanied by some very appropriate remarks by Prof. F. S. Billings, of Lincoln, Neb.

SOCIETY MEETINGS.

NEW JERSEY STATE VETERINARY SOCIETY.

The last regular meeting of the New Jersey State Veterinary Society was held on Thursday, April 26th, 1888, at Taylor's Hotel, Jersey City, N. J., with Dr. J. C. Corlies, President, in the chair, and a large attendance of members from various parts of the State.

The Secretary read a letter from Prof. Andrew Smith, Principal of the Ontario Veterinary College, in which that gentlemen expressed a desire to attend a meeting of the Association and regretted that business engagements would prevent his attendance on the occasion in question.

A letter was read from Dr. Wm. B. E. Miller, of Camden County, explaining his inability to be present, and wishing the Association all the success the cause demands. The Secretary also announced the receipt of letters from Dr. Voorhees, of Somerville, Dr. Charles Kuehne, of Jersey City, and other veterinarians not present at the meeting.

The minutes of the Newark meeting were read and adopted.

Dr. J. Serling, (graduate of a German college), a practitioner of Hoboken, was elected to membership after considerable discussion. It was held by some of the members present, that although Dr. Serling was a practitioner of Hoboken, yet he resided in New York, and not being a resident, he therefore was not entitled to membership in the State Veterinary Association of New Jersey. Dr. Sattler and others took a more liberal view of things, and upon ballot, Dr. Serling received sufficient votes and the President declared him elected to membership.

Dr. Nayler proposed the name of Dr. Vreeland of Ocean avenue, Jersey City, a recent graduate of the A.V.C., for membership. Dr. Vreeland's name was referred to the Board of Censors.

The subject of contagious pleuro-pneumonia in Hudson County and elsewhere in the State received considerable amount of attention.

It was the sense of the meeting that Dr. Diamond and his deputies were doing good work in Hudson County, and deserved the hearty support of not only every veterinarian in the county and State, but of stockowners and the public generally. Dr. Nayler thought there was too much politics in the matter, and others expressed the fact that if politics were allowed to get a hold, that the usefulness of the Bureau would be greatly impaired.

Much time was taken up with the revision of the Constitution and By-Laws of the Association. The fact that the Association is now so incorporated, under the act of the Legislature for the promotion of veterinary science and art, that only graduates from chartered veterinary colleges are eligible to membership, simplifies the By-Laws greatly.

Article II. of the Constitution was amended to read that the "New Jersey State Veterinary Society has for its object the promotion of fraternal feeling among its members, the welfare of the veterinary profession in general, and of New Jersey in particular, aiming to protect the rights and privileges of practitioners, and to elevate the standard of the profession by scientific intercourse."

Dr. Loblein of New Brunswick, Dr. Mercer of Montclair, Dr. De Clysle of New Durham, and others favored more frequent meetings, and hereafter, instead of tri-annual meetings, the Association will hold quarterly meetings in various parts of the State, and a banquet will be held each year at the annual meeting, which occurs in the month of August.

The order of business at the regular meetings was changed so as to have all the business of the meeting transacted before the reading of papers and the discussion of them should take place. The initiation fee was fixed at \$3.00.

Members were allowed the privilege of inviting any person or persons outside of the profession who may have promoted the interests of the Association, to be present at any regular meeting.

The Code of Ethics makes it a grave offense for any member to speak disrespectfully of another, or by insinuation or otherwise to injure his reputation or professional standing. It behooves each member to do as he would wish to be done by, and to cultivate that sense of honor and propriety which should invariably distinguish the professional man. As the Association aims to protect the privileges and immunities of its members, it is expected that they will exercise their abilities in extending and enriching the domain of comparative medicine and surgery, and in advancing the interests of the profession. The Code prohibits a practitioner from prescribing for a patient having been treated by another member of the profession, unless the former has relinquished the case, or that the owner announces that he has dispensed with his services.

In case of consultation, the consulting veterinarian should so far as he can conscientiously, sustain the surgeon in charge of the case, and in no way, either by word or act, promote his own interests at the expense of his brother practitioner. He whose practice is based on an exclusive dogma or who rejects the accumulated experience of the profession, or ignores the aids of anatomy, physiology, pathology and organic chemistry, shall not be considered a fit associate in consultation.

While it is essential for the veterinarian consulted to ascertain the true nature of the case, he should carefully withhold all discussion of the subject till his brother practitioner and himself meet in private for deliberation. When a conclusion is reached it will be the duty of the attending veterinarian to state the results to his client in presence of the consulting veterinary surgeon. No opinions should be delivered which are not the result of previous deliberations and concurrence.

When diversity of opinion exists, it may be proper to refer the case to several veterinarians of good standing, or a court-medical. Still in most cases mutual concessions should render this unnecessary. All discussions in consultation should be confidential. Qualifications, not intrigue or artifice, should constitute the foundation for successful practice.

Any advertisement or announcement beyond the name and address shall be deemed unprofessional. Any advertisement or announcement of nostrums, secret remedies, panaceas, and all things of like nature, shall also be deemed unprofessional. The promising of radical cures and the procuring of certificates regarding

the same, or of operations, with a view to advertisement, would be deemed reprehensible. It is also reprehensible for veterinarians to give certificates relating to patent medicines, or promoting their use in any way.

There is no profession whose members are more tempted to practice double dealing than the veterinary, as for instance, in giving of opinions regarding the purchase and sale of horses. Any member guilty of that offence shall be expelled from the Association.

The Secretary was instructed to have the new By-Laws and stationery printed. The Association adjourned to meet at Long Branch, August 4th, when the annual election of officers will be held.

WM. HERBERT LOWE, D.V.S., *Secretary.*

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

At a regular monthly meeting of the Keystone Veterinary Medical Association, held in the amphitheatre of the Veterinary Department of the University of Pennsylvania, President Dr. Zuill called the meeting to order at 8:30 P. M. Fourteen members present.

The minutes of preceding meeting were read and adopted as read.

Dr. Goentner was appointed to read a paper at this meeting, but was absent.

Dr. Hoskins reported case of horse bought subject to trial and which soon died, and the autopsy showed marked lesions in the kidneys which he attributed to the obstinate course that the symptoms of pleuresy had taken, and he thought that the disease of the urinary system was long seated, and that if the animal had lived would have soon succumbed to azoturia, and he thought this an important discovery, throwing much light on the subject, and that if owners would only pay for it, that an analysis of urine should be included in a certificate of soundness.

Dr. Zuill thought the friability of the kidneys due to *post mortem* change.

Dr. Huidekoper thought with Dr. Zuill.

There were several other interesting cases reported by Drs. Kooker, Glass and Hoskins.

Dr. Zuill showed a case of collection of sinuses which obstructed the respiration so much as to simulate a new growth in the nasal cavities. The hour for adjournment having arrived the meeting adjourned.

CHARLES WILLIAMS.

VETERINARY SOCIETY OF NEW YORK AND VICINITY.

The annual meeting of the above German veterinary society was held at Meinhardt's Hall, No. 213 Forsyth street, on Tuesday, April 3d.

Dr. A. Kunz, President of the Society, called the meeting to order, in a very appropriate speech, briefly reviewing the history of the Society and relating the good work that has been done by its members, and made many good suggestions in the interest of the members. The regular business was then proceeded with.

The minutes of the previous meeting were read by the Secretary, Dr. J. Serling, and adopted.

Several new members were then proposed.

The meeting then proceeded to the election of officers for the ensuing year, which resulted as follows:

President, Dr. A. Kunz, New York; Vice-President, Dr. L. R. Sattler, Newark, N. J.; Secretary, Dr. J. Serling, New York; Treasurer, Dr. Jos. Kungli, New York; Board of Censors, Drs. Terini, Sattler and Anker.

The meeting then listened to Dr. L. R. Sattler, of Newark, N. J., who announced that he will hold a course of lectures on infectious diseases, the first being on hydrophobia, which was listened to with great interest, as the most accounts given by him were from own observations in the laboratory of Dr. Pasteur.

A vote of thanks was given Dr. Sattler, who then announced that his next subject to speak on would be *glanders*.